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<i>Position</i>	Project Leader
<i>Field of work</i>	Power and Renewable Energies
<i>Date of Interview</i>	12. April 2016
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## Background

The SES is a professional organization that performs political work. Felix Nipkow is engaged as information processor in the background for lobbying work with national parliamentarians. For this he does translation work between science, media and politics and prepares papers, which are then carried personally or send by partner organizations and lobbyists of the SES to politicians.

Biomass is one of the renewable technologies, whose support Felix Nipkow advocates on the national level. Thus, he has less dealt with what projects can do specifically for the promotion of biomass, but is rather engaged with the higher level, that is how much money is available for renewable energies at all and how these processes can be politically ensured.

## Policy, financial instruments and legal regulations

<i>Situation in Switzerland</i>	<p>Currently the energy policy situation in Switzerland is not very positive, however, it depends to what it is compared. Before the accident in Fukushima energy policy in Switzerland was even worse than today. Switzerland has still, also in comparison to the surrounding countries, a very <b>blocked promotion of renewable energies</b>.</p> <p>Similar to Germany (EEG since 2000) a <b>feed-in tariff system</b> exists in Switzerland (since 2009), which is, however, capped. This means that the money that was available was raised through a consumer tax per kWh. This, however, was limited and there was little money taken per kWh and accordingly only few projects were promoted. As part of the nuclear phase-out, which was decided after Fukushima, this funding policy was slightly adapted, the law was changed at short notice (capping of consumer levy was increased to 1.5 centimes/kWh, own consumption explicitly allowed). The larger part is running under the <b>Energy Strategy 2050</b>, a project of the Federal Council for the nuclear phase-out, however, the promotion is still limited to 2.3 centimes/kWh. So there are only limited funds available, which are also misused for various other things (e.g. support existing hydropower plants).</p> <p>For biomass there are other possibilities for further support which, for example, are related to agriculture. Farmers, for instance, can raise credits with inexpensive conditions, which in turn aids such investments. On the other hand, when building photovoltaic systems, tax relief applies. In certain areas, no building permit is necessary (regulated by canton, not generally valid). So there are also other financial</p>
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relives available.

*Problems*

1) The limitation of the promotion is the biggest problem, which prevents the use of renewable energies. **There simply are not enough resources available and this hinders the release.** Germany had started much earlier with the construction of new renewable energy facilities through the system of the feed-in tariff. Instead of implementing real projects Switzerland has instead created a long waiting list for projects, which have never benefited of those fees and were thus often not realized.

2) Another problem is the fact that the **funding policy is perceived as a market distortion.** Many are not aware of the fact that the external costs of CO<sub>2</sub> and nuclear energy are not integrated in the price of electricity and represent a much larger market distortion.

3) Especially regarding biomass, CO<sub>2</sub> is an important point. Many understand that smoke and CO<sub>2</sub> occur when biomass is burned, but that it is a closed cycle, and therefore the CO<sub>2</sub> neutral, it is often not clearly understood.

Other barriers depend on the individual technologies.

*Solutions*

1) In principle, the system of feed-in tariff (KEV) is a very good system that works, would it not be capped. It is very valuable that it was introduced in 2009 and now can be built upon. So no new system has to be established but rather given momentum to the existing one.

2) Regarding the market distortion there is definitely still need for information. The market should go in the direction that CO<sub>2</sub> receives a prize. There are similar mechanisms for nuclear energy. It is basically always the goal of environmentally thinking people that costs are internalized. However, with that never a political majority cut be achieved, but it is worthwhile to pursue it further.

**Information and dissemination of knowledge**

*Politicians*

Politicians are also stakeholders that per part are active in associations and take up input from the public and from the media. In this respect these are all channels to get information to politicians.

*People`s initiative*

There are, however, also other means such as e.g. the popular initiative. Right now Swiss people will have to decide on one in autumn 2016, which may also have an impact on the renewable energies. It involves the establishment of the nuclear phase-out in the Constitution, which means that nuclear energy would have to be replaced by renewable energy and efficiency. If the initiative is accepted the energy strategy is probably going to be revised again and an enhanced promotion of renewable energy introduced. In this respect this year (2016) the SES will communicate through media and events directly with the population.

*General public*

**Events organised by the SES rather speak to an interested audience.** There is no possibility, for example, to display posters all over Switzerland, and so only the people are addressed, which are accessible on the channels of the foundation (around 15 000 people). These are usually the donors and members that appear in the database and thereby already have a basic interest in energy policy. In addition, especially people from administration and electricity industry are interested in events of the SES. In the general population, the organization has a more limited effect, if only because of the small size of the company (1.4 million Swiss francs revenue per year).

The SES will focus for the upcoming initiative on his channels but also try to mobilize



means to reach people beyond. Of course, the foundation is not alone in this vote.

## Public acceptance

### *Processes for authorisation*

There are technologies, such as small hydropower plants and wind power, where **authorization procedures and resistance from the nature protection**, which certainly also has valid arguments, cause major problems. **Whereby in the case of wind energy, often not nature protection organizations but residents are holding opposition.** With all authorization procedures in which multiple instances are involved, it may take 10-15 years before such a project can be realized. It has to be found a persistent investor to address such a project in the first place.

### *Public involvement*

To increase the acceptance among the population and thus to simplify authorization processes, **citizen participation** in such projects is a good way to involve the people and to encounter initial resistance. Often changes scare and are uncomfortable. But when people can, also to a certain extent financially, be integrated, it creates a **perceptibility and openness towards the project**, which would otherwise not be possible if an investor would simply put up a windmill.

Earlier there were only resistance organizations against windmills, and recently there are also pro - committees that create a balance of forces. The public acceptance of such projects has potential for improvement and the promotion of the individual successful wind turbines is therefore very important.

### *General strategies*

**In general, each realized renewable energy project is the best advertisement for the next.** There are studies in Switzerland on the acceptance of wind energy by residents of a wind turbine before and after construction, where one can see that the acceptance increases with proximity to the wind turbine.

Thus, the best advertisement is if the population sees that such a project can be successful, and experiences how renewable energies work. At the political level Germany has an influence as a role model. But again, the individual politicians can certainly be convinced easier if they see a practical example, which works well.

## Arguments of opponents

### *Costs and security of supply*

The two main arguments are money (renewable energies are expensive) and security of supply (only base-load energy can maintain supply). Against these arguments works e.g. science. There is a study of the Swiss Federal Institute of Technology (ETH) in Zurich that was done independently of the SES, which shows that there are ideal conditions in Switzerland, thanks to the alps and plenty of hydropower, to integrate a large proportion of fluctuating renewable energy into the network. A measure of the SES is now to communicate and explain this knowledge repeatedly.

### *Distortion of the market*

In addition, the distortion of the market (see also section policy, financial instruments and legal regulations) is repeatedly used as an argument, especially in the context of hydropower. It is explained by the opponents that this suffers greatly from subsidized renewable energy from Germany. The SES has already tried with various counter-studies to fight this argument. Using calculations based on the amount of subsidies from which nuclear energy has benefited, the foundation often encounters deaf ears. The feeling that there is a direct engagement in the market of renewable energies remains, additionally the support of nuclear energy is not directly visible because it is not shown on the electricity bill.

Therefore, there is a **communication problem with the power consumer**. Because the electricity bill states that 1.1 centime per kWh were paid for the promotion of

renewable energy, but not that also a contribution of 6.5 centimes for the promotion of nuclear energy was done. This amount is then paid over tax money where it is not shown.

#### *Wrong units*

In the public **debate about the CO<sub>2</sub> neutrality of biomass**, especially in the context of nuclear energy, the wrong unit is almost always used. One speaks of kg of CO<sub>2</sub> per kWh, i.e. how much CO<sub>2</sub> comes from the production of a kWh. But actually it is much more important, how much CO<sub>2</sub> can be avoided with each invested Swiss franc. If a franc is invested in photovoltaic or biomass, a relatively large amount of CO<sub>2</sub> is avoided in a relatively short time. But is the same franc invested in nuclear power, first 20 years pass until the nuclear power plant stands, if it is ever built at all. In addition, much less CO<sub>2</sub> per franc is avoided because it is more expensive to produce electricity with nuclear power as from a renewable resource. Especially photovoltaic is far ahead regarding the implementation time. From the first day of the planning to the moment where electricity is produced, it only takes 1-2 years.

This view how to deal with the units is not shared by all. Naturally, in the Nuclear Forum it is then insisted that it has to be calculated with kg CO<sub>2</sub> per kWh. That processes in the nuclear energy sector take longer and the production is more expensive is then denied.

#### *Role model Germany*

It is true that the impression of the implementation of the German energy policy is very positive in Switzerland. Germany is, regarding the energy transition, a model country, but which is also often criticized. Of course the political opponents try to highlight the negative aspects. It is often argued that Germany has invested a lot of money to promote renewable energies and that that has led in the end to more CO<sub>2</sub> because the coal plants had to be re-engaged. However, this is due to the low CO<sub>2</sub> and coal prices and not the energy revolution or the promotion of renewable energies.

### Messages

#### *Policy, financial instruments and legal regulations*

- Since 2009 feed-in tariff system (KEV) → but capped and thus support is blocked
- Since 2011 Energy Strategy 2050 → step by step nuclear phase-out (but no duration limit), promotion still blocked

#### *Problems and solutions*

- Too few financial resources for renewable energies → KEV is basically a good system that must now be given momentum
- Support policy is perceived as market distortion → CO<sub>2</sub> and nuclear hazards need to get a price

#### *Information and dissemination of knowledge*

- Informing politicians through multiple channels possible
- Popular initiatives
- Events of the SES rather speak to an interested audience

#### *Public acceptance*

- Difficult permission processes because of resistance from the population → public participation to achieve perceptibility and openness towards the project
- Realized renewable energy projects are the best advertisement for the next

#### *Arguments of opponents*

- Costs
- Security of supply
- Market distortion → communication problem towards the normal electricity consumer
- Biomass is not CO<sub>2</sub> neutral
- Countermeasures by spreading knowledge and demonstrate good examples